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# High efficiency, three-digit numeric displays

Jameco Part Number 200635

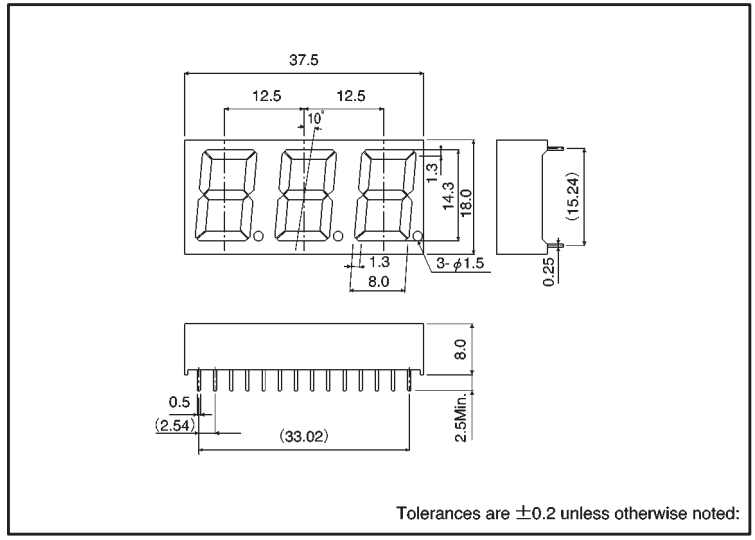
## LB-603 FP Series

The LB-603 FP series were designed to meet the need for multi-digit numeric displays. These LED numeric displays use GaAsP on GaP for the emitting material (with the exception of green) and are housed in an epoxy resin package. They are three-digit displays with a character height of 14.3 mm.

●Features

1) Height of character : 14.3 mm.
2) The package surface is painted black and the segments are colored the display color.
3) High efficiency reflectors are used to achieve a bright, clear display.

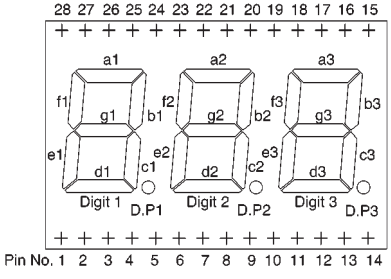
●External dimensions (Units: mm)




●Selection guide

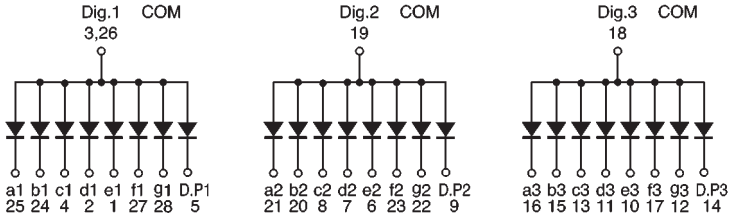
| Emitting color / Common | Red | Green |
|---|---|---|
| Anode | LB-603VF | LB-603MF |
| Cathode | LB-603VP | LB-603MP |

●Pin assignments




| Pin No. | Function | Pin No. | Function |
|---|---|---|---|
| 1 | Segment “e1” | 15 | Segment “b3” |
| 2 | Segment “d1” | 16 | Segment “a3” |
| 3 | Digit 1 Common | 17 | Segment “f3” |
| 4 | Segment “c1” | 18 | Digit 3 Common |
| 5 | D.P1 | 19 | Digit 2 Common |
| 6 | Segment “e2” | 20 | Segment “b2” |
| 7 | Segment “d2” | 21 | Segment “a2” |
| 8 | Segment “c2” | 22 | Segment “g2” |
| 9 | D.P2 | 23 | Segment “f2” |
| 10 | Segment “e3” | 24 | Segment “b1” |
| 11 | Segment “d3” | 25 | Segment “a1” |
| 12 | Segment “g3” | 26 | Digit 1 Common |
| 13 | Segment “c3” | 27 | Segment “f1” |
| 14 | D.P3 | 28 | Segment “g1” |

●Internal circuit schematic (example of common anode)




●Absolute maximum ratings (Ta = 25°C)

| Parameter | Symbol | Red | Green | Unit |
|---|---|---|---|---|
| | | LB-603VF / VP | LB-603MF / MP | |
| Power dissipation | $P_D$ | 960 | 1440 | mW |
| Power dissipation | $P_D$ / seg | 40 | 60 | mW |
| Forward current | $I_F$ | 15 | 20 | mA |
| Peak forward current | $I_{FP}$ | 60* | 60* | mA |
| Reverse voltage | $V_R$ | 3 | 3 | V |
| Operating temperature | Topr | −25～+75 | | ℃ |
| Storage temperature | Tstg | −30～+85 | | ℃ |

* Pulse width 1ms duty 1 / 5

●Electrical and optical characteristics (Ta = 25°C)

| Parameter | Symbol | Conditions | Red | | | Green | | | Unit |
|---|---|---|---|---|---|---|---|---|---|
| | | | Min. | Typ. | Max. | Min. | Typ. | Max. | |
| Forward voltage | $V_F$ | $I_F$=10mA | — | 2.0 | 2.8 | — | 2.1 | 2.8 | V |
| Reverse current | $I_R$ | $V_R$=3V | — | — | 100 | — | — | 100 | μA |
| Peak wavelength | $\lambda_P$ | $I_F$=10mA | — | 650 | — | — | 563 | — | nm |
| Spectral line half width | $\Delta\lambda$ | $I_F$=10mA | — | 40 | — | — | 40 | — | nm |

◎Not designed for radiation resistance.

●Luminous intensity

| Color | $\lambda_P$ | Type | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|
| Red | 650 | LB-603VF | 5.6 | 16 | — | mcd |
| | | LB-603VP | | | | |
| Green | 563 | LB-603MF | 9 | 25 | — | mcd |
| | | LB-603MP | | | | |

Note: Measured at $I_F$ = 10mA